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Location:
Land Off Timmy's Lane
Hurworth
Darlington

Report Type:
Arboricultural Survey
Arboricultural Impact Assessment
Arboricultural Method Statement

Ref:
ARB/AE/3186

Date:
July 2023

Contents

Appendices

1 Introduction

1.1 This report has been prepared by Andrew Elliott of Elliott Consultancy Ltd on behalf of the applicant.

1.2 Elliott Consultancy Ltd was commissioned to visit the site to inspect the trees and to produce an arboricultural report in accordance with British Standard 5837:2012 '*Trees in Relation to Design, Demolition & Construction*'. An initial inspection of the trees was undertaken by Andrew Elliott on the 17th July 2023.

1.3 **Scope of the report:**

- This report provides arboricultural information and advice in relation to the proposed re-development of the site for residential use, with the current buildings to be removed and replaced.
- It should be used to guide the planning design and construction process in order to minimise potential damage to retained trees.
- Section 4 provides a summary of the potential impacts on the current tree population and outlines countermeasures to help minimise damage.
- Sections 5-7 provide a method statement that details all measures recommended for adequate tree protection including any special construction measures to be utilised.

1.4 Trees can be protected by Tree Preservation Order (TPO) or by merit of location within a Conservation Area; advice should be sought from the relevant planning department if such restrictions have been placed on the site.

1.5 It is possible that trees inspected within this survey may also be habitat for a variety of species. It is not within the remit of this report to investigate matters other than arboricultural issues.

2 Site Information

2.1 The site is currently a residential bungalow set within its own gardens, with agricultural barns and outbuildings to the east and a small, grassed paddock to the north. Figure 1 shows the survey area (this may exceed the application redline area, but allowed for trees on adjacent land to be considered that may be subject to impact):

Figure 1: Site.

2.2 Tree cover on the main body of the site is minimal with only small, low quality, and immature trees located around the buildings. More mature and significant tree cover includes trees and hedges to the north of the site paddock alongside Cree Beck, a small watercourse.

2.3 Any visibility constraints or restrictions (Ivy etc) is noted within the survey data (Appendix 1).

3 Tree Category Explanation

3.1 The criteria used for evaluating how suitable each tree is for retention within a development is that suggested within 5837:2012.

3.2 BS5837:2012 notes that all trees apart from those with stem diameters <150mm or classified as Category U should be viewed as a site constraint. When inspected, each tree and or group feature is assigned one of four categories that signify how suitable that tree/group would be for retention within any development proposals, and therefore the degree to which it should constrain the site. The four categories are as follows:

3.2.1 **Category A** trees are those of high quality and value, and of a condition whereby they could make a substantial contribution to the site. Such trees should be retained and offered adequate consideration during the design phase and physical protection during the construction phase in accordance with BS 5837:2012. This requires keeping proposed features and alterations to ground levels outside root protection areas and crown spreads so as to ensure that trees remains in an adequate condition post-development. Root protection areas and crown spreads are displayed upon the Tree Constraints Plan (Appendix 2).

3.2.2 **Category B** trees are those of moderate quality and value, and of a condition that they could make a substantial contribution to the site. Category B trees should be retained wherever possible and offered adequate consideration during the design phase and physical protection during the construction phase in accordance with BS 5837:2012.

3.2.3 **Category C** trees are considered to be of low quality and value, or lacking stature, but of an adequate condition to remain in the short-term. These trees could and in some cases should be retained where possible, but where they form a constraint to design their removal should be considered. Where they are to be retained they should be afforded adequate consideration during the design phase and physical protection during the construction phase in accordance with BS 5837:2012.

3 Tree Category Explanation (cont)

3.2.4 **Category U** trees are of such a condition that any existing value would be lost within 10 years. As a result it is recommended that Category U trees are not considered a constraint for development and are removed prior to construction commencing.

3.3 In addition to the four main categories explained above, each tree/group is assigned a sub-category which signifies its overriding value as determined by the surveyor, which is noted by adding a suffix of 1, 2 or 3 alongside the category letter. 1 signifies that the trees/groups main value is arboricultural e.g. it may be a particularly good example or may be rare. A 2 signifies that the overriding factor was due to the landscape value that the tree/group provides e.g. it may be part of a group feature such as a screen. A 3 indicates that a cultural factor was the overriding value e.g. it may have historical or commemorative importance.

4 Design Proposals and Arboricultural Impact

4.1 This section concentrates on the proposals and how they relate to the trees and hedges around the site (see Appendix 6).

4.2 **Potential Conflict 1: Loss of trees to allow construction.**

Trees 1-11, and Groups 1 & 2 require removal to allow construction.

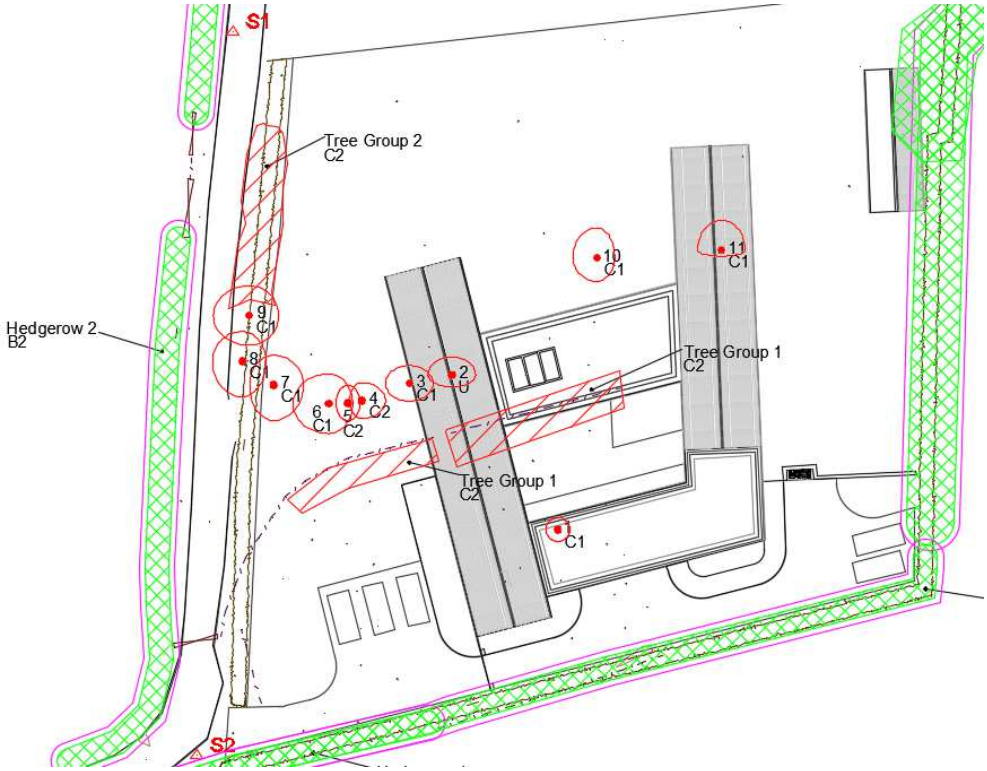

Figure 2: Tree removals (in red)

Mitigation / Countermeasure: Of the 11 individual trees outlined for removal, 10 were classified as Category C trees of low quality, and 1 was classified as a Category U tree that requires removal regardless of the proposals due to poor structural condition. Both groups were similarly classified as Category C features of low quality that would not ordinarily constrain design. The arboricultural impact is considered to be very low, and any visual impact is similarly limited due to the trees' lack of stature and long-term value. Replacement tree planting within the site can ensure better quality canopy cover is provided for the long-term on site, and the proposed perimeter hedgerow planting on the sites western boundary will similarly reduce any short-term visual impact when viewed from the adjacent access track.

4.3 **Potential Conflict 2: Damage to retained trees and hedges during construction.** Retained trees and hedges may be damaged due to a variety of reasons during the development process.

Mitigation / Countermeasure: All retained trees to the north are discrete from the construction zone and adhering to the construction exclusion zone shown at Appendix 7 will negate any potential risk of impact. Hedges can be protected during the construction process in accordance with BS5837, by the installation of appropriate protective fencing as shown within Appendix 7. Hedgerows 1 & 3 are recommended for maintenance back into their historically managed form (where overhanging outgrowths at the rear of the barns and access difficulties have prevented recent management) and are shown at Appendix 6 & 7 in an illustrative form of 2m height and 0.75m depth to centreline.

4.4 **Potential Conflict 3: Damage to trees due to the installation of services.** Damage can be caused to roots during the installation or replacement of utilities runs.

Mitigation / Countermeasure: No new service runs will be located within the retained tree RPA's. All proposed works to existing utilities will be undertaken with regard for the retained tree cover and will be in accordance with NJUG (National Joint Utility Group) recommendations.

4.5 **Potential Conflict 4: Damage to trees due to post-development landscaping:** Damage can be caused post-development by excessive landscaping and soil changes in close proximity to retained trees.

Mitigation / Countermeasure: Landscaping works within the root protection areas will be kept to a minimum. Tractor mounted rotavation or other heavy mechanical cultivation must not be used within the root protection areas of retained trees. All cultivation within RPA's will be carefully undertaken by hand or pedestrian controlled light machinery to avoid root damage.

5 Pre-construction and Site Preparation Works

5.1 Refer to Appendix 2 for stage specific tasks.

5.2 Undertake tree removals and hedge pruning as detailed at Appendix 2.

5.3 Prior to any site works commencing, the fencing needs to be erected according to the locations found on the Tree Protection Plan (Appendix 7). The fence should conform to the specification and locations shown within Appendices 3 & 7.

5.4 At the beginning of the construction phase, the site manager will appoint a delegated site representative who shall be responsible for continued checking of the protective fencing to ensure it remains compliant with the exclusion zone.

6 Tree protection measures during construction

6.1 Refer to Appendix 2 for stage specific tasks.

6.2 All ground levels where trees are located should be maintained. Changes to soil levels adjacent to trees can severely affect the trees structural integrity and its ability to gain moisture and nutrients from the surrounding soil. Unavoidable level changes that may affect retained trees, and not already accounted for within this method statement, should be assessed by a qualified arboriculturalist so that any mitigation or special construction techniques can be considered.

6.3 Building material storage and operations that can contaminate soil, such as cement mixing, must be confined to areas outside the RPA's.

6.4 Fires should not be lit.

6.5 The trees should not be used to attach notices, cables or other services.

6.6 The installation of any underground services near or adjacent to trees on the site shall conform to the requirements of National Joint Utilities Group publication Volume 4 (November 2007).

7 Tree protection measures post-construction

7.1 Refer to Appendix 2 for stage specific tasks.

7.2 Only once all construction works have been completed can the protective fencing be removed.

Appendix 1: Tree Data

Key to tree survey headings:

- **Tag –** Tree number corresponding to plans & tags
- **Species –**Common name of each tree
- **DBH –** 'Diameter at breast height' in mm taken on stem at 1.5m.
- **Hgt –** Height in metres of each tree
- **Crown spread: North, South, East, West –** Crown spread in metres to x4 cardinal points from centre of stem
- **CH –** Crown clearance from ground to lowest branches
- **EstD** – Estimated dimensions
- **Age –** Age-class of tree: Y = Young, SM = Semi-mature, M = Mature, OM = Over-mature.
- **General observations –** details both Physiological and structural Condition
- **Est Con –** Estimated life expectancy / contribution to the landscape (in years): 0-10, 10-20, 20-40, 40+
- **Recommendations –** Any recommendations that, regardless of land use, require attention.
- **BS. Cat –** Retention category. **A**, **B**, **C**, or **U**. For retained trees **A** being of the highest quality, **C** being the lowest. Category **U** trees for removal regardless of design. Category A, B, & C are given sub-catagories1, 2, & 3 – details of which are shown in appendices.

Tree Survey Data

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
1	Tibetan Cherry	Y	5	1	3	1	1	1	1	0.5	N	Not located on topographical survey - location estimated.	40+	C1	No work required
2	Norway Maple	Y	14	2-5	6	2	1	2	2	0.5	N	Split branch union at 1m - very poor form.	<10	U	Fell
3	Silver Maple	Y	14	2-5	5	2	2	2	2	1.5	N		cbi.	C1	No work required
4	Field Maple	Y	13	1	5	2	2	2	1	0.5	N	Suppressed and poor form.	40+	C2	No work required
5	Field Maple	Y	8	1	5	2	2	1	1	0.5	N	supp poor form.	40+	C2	No work required
6	Aspen	Y	20	1	8	3	3	2	3	0.5	N	Suppressed and poor form. Crown has poor quality branch form and attachments - suspected non-inegrated wood fibres in branch unions - structural defect.	20+	C1	No work required
7	Aspen	Y	20	1	8	3	3	3	2	0.5	N	Crown has poor quality branch form and attachments - suspected non-inegrated wood fibres in branch unions - structural defect.	20+	C1	No work required
8	Aspen	Y	18	1	8	3	3	2	3	0.5	N	Crown has poor quality branch form and attachments - suspected non-inegrated wood fibres in branch unions - structural defect.	20+	C1	No work required

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
9	Aspen	Y	20	2-5	8	3	3	3	3	0.5	N	Crown has poor quality branch form and attachments - suspected non-inegrated wood fibres in branch unions - structural defect.	20+	C1	No work required
10	Birch spp	Y	10	1	6	3	2	2	2	1.5	N		40+	C1	No work required
11	Ash	Y	18	1	8	3	0.5	2	2	0.5	N	Symptoms of early infection by Ash Dieback.	10+	C1	No work required
12	Horse Chestnut	Y	5	2-5	2.5	1	1	1	1	0.5	N		40+	C1	No work required
13	Horse Chestnut	Y	8	2-5	3	2	1	1	1	0.5	N		40+	C1	No work required
14	Birch spp	Y	9	1	6	1	2	1	1	1	N		40+	C1	No work required
15	Horse Chestnut	Y	11	1	5	2	2	2	2	1	N		40+	C1	No work required
16	Field Maple	Y	8	2-5	5	2	0.5	2	2	1	N	Mult-stemmed.	40+	C1	No work required
17	Crack Willow	M	100	2-5	15	8	9	8	8	1	Y	Off-site. Multi-stemmed base. Other side of boundary watercourse.	20+	B1	No work required

Group Data

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
1	Aspen Field Maple Sycamore Lombardy Poplar	Alder spp	15	8	Y	2	Small trees and lower ornamental bushes.	No work required	40+	C2
2	Leyland Cypress		15	6	Y	2	Line of fast growing conifers. Multi-stemmed and characteristic poor form.	No work required	20+	C2
3	Scots Pine		8	4	Y	2	Small block of young trees - plantation.	No work required	40+	C2

Hedgerow Data

Hedge Number	Dominant Species	Lesser Species	Age	Average Height	Average Depth	Historically Managed Height	Historically Managed Depth	Condition/Comments	Recommendations	EstCont	BS Cat
1	Hawthorn Blackthorn		M	2.5	1	1.5	0.5	Ivy ingress. Small sections. Possibly Off-site?	No work required	20+	C2
2	Hawthorn Blackthorn		M	2.5	1	1.5	0.5	Ivy ingress. Off-site.	No work required	40+	B2
3	Hawthorn Blackthorn		M	3	2	2	1	Off-site. Sectiom near sheds outgrown and 5m x 2.5m. Can be remanaged.	No work required	20+	B2
4	Hawthorn	Elder	M	5	2	As current height	As current depth	Dense plants on edge of watercourse. Some management as hedge in some locatiions, but generall outgrown. Individually poor but cohesive stlll.	No work required	20+	B2

Hedge Number	Dominant Species	Lesser Species	Age	Average Height	Average Depth	Historically Managed Height	Historically Managed Depth	Condition/Comments	Recommendations	EstCont	BS Cat
5	Leyland Cypress	Hawthorn	SM	9	2	As current height	As current depth	Lower section faced-off upto 4m, but upper section unmanaged. Ownership unclear.	No work required	20+	C2

Appendix 2: Arboricultural Tasks Sequence Tables

Tree or Group Number	Pre-Construction Stage	Construction Stage	Post Construction Stage
Trees 1-11. Groups 1 & 2. (all highlighted in red at Appendix 6).	Remove.		
Hedgerows 1 & 3.	Maintain in managed form – 2m Height and 0.75-1m depth to centerline.		
All trees	Adhere to Section 5. Install protective fencing as per Appendices 3 & 7. Attach tree protection notice as per Appendix 4.	Adhere to specification within Section 6.	Adhere to specification within Section 7.

Appendix 3 : Protective Fencing Specification

Appendix 4: Construction Exclusion Zone Notice

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Tree Position Showing Crown Extents and BS5837 Category B

Tree Position Showing Crown Extents and BS5837 Category C

Tree Position Showing Crown Extents and BS5837 Category U

Root Protection Area - to remain free from disturbance (merged where over-lapping)

Group of Trees

Hedgerow

1/G1/H1 Tree/Group/Hedgerow Number

A1/B1/C1/U BS5837 Retention Category

1:200

0 2 4 6 8 10 12 14 16 18 20 [m]

APPENDIX 5

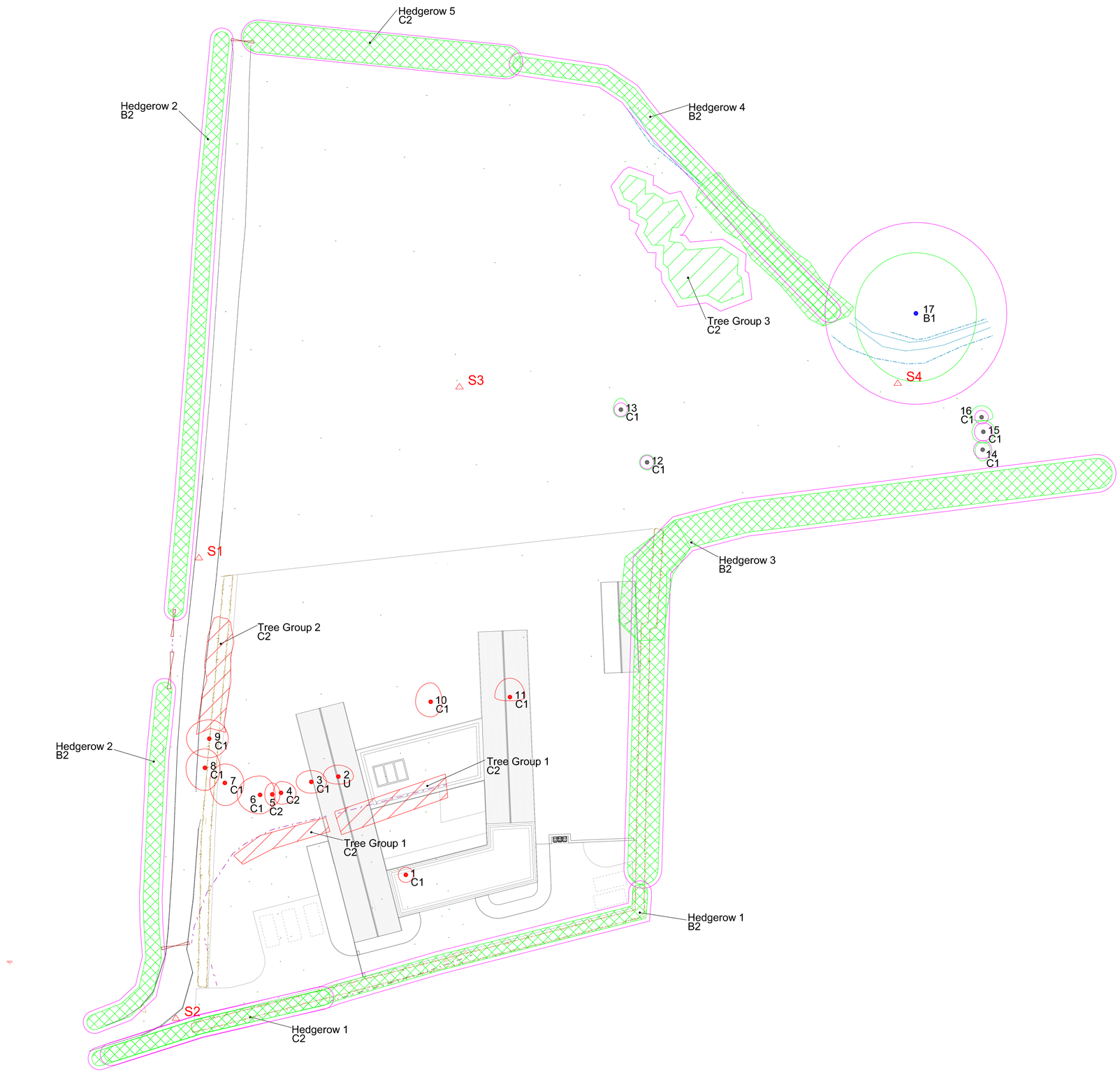
Drawing Title: Tree Constraints Plan

Project: Land off Timmys Lane

Drawing Number: ARB/AE/3186/TCP

Date: July 2023

Scale: 1:200 @ A0



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Tree Position Showing Crown Extents and BS5837 Category B

Tree Position Showing Crown Extents and BS5837 Category C

Root Protection Area - to remain free from disturbance (merged where over-lapping)

Group of Trees

Hedgerow

1/G1/H1 Tree/Group/Hedgerow Number

A1/B1/C1/U BS5837 Retention Category

Tree Requiring Removal

Group of Trees Requiring Removal

1:200

0 2 4 6 8 10 12 14 16 18 20 [m]

APPENDIX 6

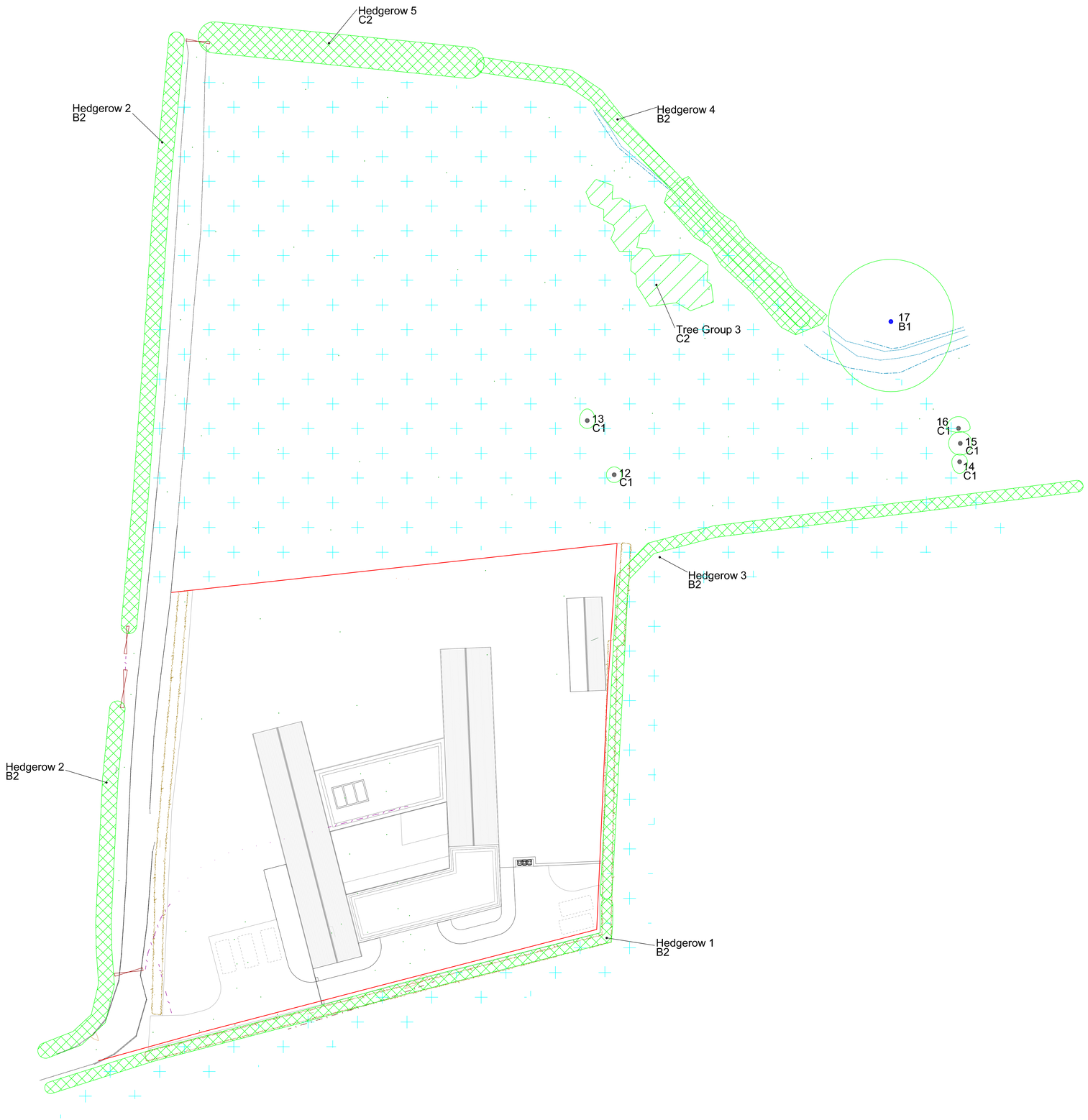
Drawing Title: Tree Impact Plan

Project: Land off Timmys Lane

Drawing Number: ARB/AE/3186/TiP

Date: July 2023

Scale: 1:200 @ A0



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Tree Position Showing Crown Extents and BS5837 Category B

Tree Position Showing Crown Extents and BS5837 Category C

Group of Trees

Hedgerow

1/G1/H1 Tree/Group/Hedgerow Number

A1/B1/C1/U BS5837 Retention Category

Tree & Hedge Protection Fence

Construction Exclusion Zone

1:200

0 2 4 6 8 10 12 14 16 18 20 [m]

APPENDIX 7

Drawing Title: Tree Protection Plan

Project: Land off Timmys Lane

Drawing Number: ARB/AE/3186/TpP

Date: July 2023

Scale: 1:200 @ A0